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ABSTRACT

Voluntary support of higher education in America is investigated through regression analysis of institutional characteristics at two points in time. The assumption of donor rationality together with explicit consideration of interorganizational relationships offers a coherent framework for the analysis of voluntary support by the major donor-groups. Support by alumni and non-alumni individuals and business corporations is specifically isolated, and support by all other sources is combined in another category. Although the various donor groups sometimes act in a consistent manner, more often donor behavior is best understood on a subgroup basis. Institutional size is of importance to most donor groups, and institutional quality is of significance to all groups, save alumni, who respond to more institutional prestige and the financial difficulty of their alma mater. Current institutional efforts at fund raising appear to be primarily reactive in nature. Long-standing ties to institutions are of importance to most donor groups. The various groups who contribute to American research universities act in a manner largely predictable from theory. Economic organizations tend to react primarily in rational economic fashion, whereas the emotives of private individuals have a clearly human dimension as well. Contains 19 references. (SM)

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DONOR BEHAVIOR AND VOLUNTARY SUPPORT FOR HIGHER EDUCATION INSTITUTIONS

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Abstract

Voluntary support of higher education in America was investigated through regression analysis of institutional characteristics at two points in time. Although the various donor groups sometimes act in a consistent manner, more often donor behavior is best understood on a subgroup basis. Institutional size is of importance to most donor groups, and institutional quality is of significance to all groups, save alumni, who respond more to institutional prestige and the financial difficulty of their alma mater. Long-standing ties to institutions are of importance to most donor groups. The behavior of most donor groups is predictable from theory.

DONOR BEHAVIOR AND VOLUNTARY SUPPORT

FOR HIGHER EDUCATION INSTITUTIONS

Income from private giving always has been of great importance to American colleges and universities. Through the rest of this decade, however, maintaining and expanding these resources will approach crucial significance. In short, voluntary support has both a timeless and a timeliness dimension.

Unlike appropriations and allocations from government and income from many other sources, voluntary support for colleges and universities takes on relatively unrestricted forms. Whereas the spending of governmental monies and other resources generally are prescribed or at least closely regulated, much voluntary support may be expended almost without constraint. The result is that endowment and related funds often are the major sources of institutional discretionary funds by which innovations may be introduced, risks may be taken, and investment in the future may be made. Voluntary support often provides the margin of excellence, the element of vitality, that separates one institution from another and allows institutions to escape from the routinized sameness of fully regulated organizations.

In addition to the timeless importance of voluntary support, there is also a timeliness dimension. The present pervasive, relative decline in resources available to institutions of higher education, the ubiquitous budget cut on campus, has raised the importance of voluntary support to a critical level. Voluntary support is becoming the only source of real discretionary money and in many cases is assuming a critical role in balancing institutional budgets. From the late 1940s to the mid 1960s, voluntary support represented just under 10

percent of total institutional expenditures. This figure had declined to 5.6 percent by 1975-76, but the level rose slightly to 6.2 percent in 1980-81 [4]. As other sources of funding become more difficult to expand, voluntary support will assume an increasingly important role as institutional expenses continue to rise.

Higher education institutions obtain charitable contributions from six principle sources. Table 1 shows a proportionate breakdown of total voluntary support for 1975-76 and 1980-81. Private individuals, both alumni and non-alumni, have traditionally been the main source of voluntary support, representing between 48 and 49 percent of contributions in both periods. Support from the second largest source, non-business organizations, fell from 36.3 percent to 33 percent over the five-year period. Most of this decline resulted from a large drop in the proportion of contributions by religious denominations. Gifts from business corporations represented the only significant relative expansion, rising from 15.7 to 18.4 percent. In view of the ongoing significance of individual giving and the growing importance of business support, the motivations and constraints of these donor-groups will be key considerations in any analysis of voluntary support.

Insert Table 1 about here

The total level of voluntary support is closely related to economic growth. However, fluctuations in economic conditions over time do not account for all variations in voluntary support, especially when particular donor-groups are considered. For example, the growth of

support has not closely matched increases in income of the donor groups. In real terms, over the period 1975-76 to 1980-81, individual contributions rose 30 percent compared to only a 7 percent rise in disposable personal income. Corporate gifts rose 32 percent despite a 2 percent increase in corporate pretax net income, while foundation support experienced a 7 percent rise at the same time as dividend and interest income increased 35 percent [4, p.5]. Clearly each donor-group's response to economic conditions was distinct, indicating fundamental differences in their motivations and constraints. In assessing the problem of charitable fund-raising, it is therefore highly relevant to study the factors underlying the behavior of these diverse groups.

There is another dimension to voluntary support which transcends intertemporal economic fluctuations. At any given college or university, the key question is not how aggregate voluntary support behaves over time but rather how the particular characteristics of the institution, along with the bilateral relationships between the institution and its various donors, affect the contribution made to that institution. Since characteristics and relationships are often controllable by the institution, an understanding of the gift-giving relationship between donors and individual institutions could be very useful in developing effective fund-raising strategies.

It is clear that voluntary support has a fundamental significance related to its inherent qualities as well as the changing financial situation of colleges and universities. An improved understanding of the behavior of the most important donor-groups and their relationships with educational institutions consequently is of high utility to educa-

tional leaders and decision makers.

I. Past Research

A rigorous approach to empirical analysis of aggregate charitable giving first appeared in works by Taussig [19] and Schwartz [16] in the context of assessing the impact of the charitable tax deduction on the quantity of overall philanthropic contributions. This question was addressed further by Feldstein [6, 7], who directed the research for the "blue-ribbon" Filer Commission and who concluded that charitable contributions are increased substantially by deductibility. This literature has analyzed variation in aggregate voluntary support over time using time-series data on the "price" of charity, taking careful account of tax rates and per-charity disposable income. To generate his data base, Feldstein used tax return data to break down each year's figures for charitable contribution, price, and income by income classes, obtaining 187 observations for the period 1948 to 1968. Thus time-series and cross-sectional dimensions were combined to enlarge the sample.

In a follow-up study, Feldstein [7] applied his approach to specific categories of charitable contributions. He found that voluntary support of institutions of higher education by individuals was concentrated in the upper income classes and that over time these donors were very sensitive to changes in the price of giving resulting from variations in marginal tax rates. Overall, this literature is of limited relevance to issues of higher education finance. Moreover, a better understanding of voluntary contributions to colleges and universities would be of importance to the study of philanthropy as a whole, as gifts to institutions of higher education have traditionally represented between 8

and 10 percent of all charitable giving.

The higher education component of total philanthropy was analyzed as an aggregate by Leslie et al. [11] in a time-series analysis over the period 1932 to 1974. No attempt was made to disaggregate total voluntary support by any institutional classifications, but individual and business contributions were distinguished. Voluntary support as a whole was found to be significantly and positively related to anticipated business conditions. Further, bond yields and the consumer price level had a positive effect on giving. Since both of these relate positively to a broadly conceived "price of charity," this result countered the findings of Feldstein's tax-related price analysis. Moreover, tax effects were found to be restricted to corporate contributors. Individuals were found to respond most favorably in periods of institutional need, when economic conditions were poor, while corporate giving correlated positively with economic conditions.

These time-series studies have analyzed charitable gifts as the decisions of rational agents responding to economic conditions. Past cross-sectional research into higher education support, however, has not emphasized the motivations and constraints of donors but rather the fund-raising strategies and performances of individual institutions. Earlier studies dealt with the efficiency of expenditures on fund-raising in terms of the related quantity of contributions. This "input-output" approach did not directly analyze the role of the donors in the process. Later studies took this into account by emphasizing the concept of "fund-raising potential," composed of the financial resources in the institution's environment, including donor wealth and philanthropic

proclivity, along with the fund-raising environment. These studies sought to estimate empirically fund-raising potential for groups of universities, then assess which universities exceeded and fell short of their potential. In general, voluntary support has been found to correlate most closely with institutional fund-raising expenditures, although donor and other institutional characteristics were not fully taken into account [10, pp. 59-62].

A more detailed study recently was performed by Pickett [14], who used a cross-section of liberal arts institutions and fitted voluntary contributions to market value of endowment, number of alumni, cost of attendance, and the percentage of the senior class attending graduate school. These four variables were found to be the best predictors from among a much more extensive list. The fitted values from this voluntary support regression were deemed to represent "fund-raising potential." He deducted this potential from actual contributions, and by this measure designated the top 25 percent as "overachievers" and the bottom 25 percent as "underachievers." Using survey results, Pickett sought to explain the incidence of under- and over-achievement through analysis of specific fund-raising characteristics and strategies. However, in the original regression equation Pickett did not control for fund-raising efforts, thus introducing the possibility of spurious correlation and biased coefficient estimates through failure to control simultaneously for "potential" and "effort."

These past efforts have suffered from an excessive emphasis on particulars of institutional fund-raising techniques along with insufficient regard for the factors that underlie the contribution decisions

of donor-groups. The present study is an attempt to correct these deficiencies by analyzing in detail the charitable decisions of each of the major donor-groups and their interactions with institutional recipients across a sample of research universities.

II. Framework

As in the time-series studies of aggregated charitable contributions, we assume that charitable contributions represent utility-maximizing behavior on the part of donors. In this case, educational benefits to society are assumed to have a favorable effect on the well-being of donors. From this it follows that a university's quality and hence its ability to convert contributions into educational benefits, will be important to the donor. Donors might exhibit a preference for nearby institutions because they wish to promote education in their locality, even if the same gift to a higher-quality but more distant institution would be more beneficial. Alternatively, donors may be indifferent to either quality or local concerns and wish merely to enhance personal prestige and instead might seek to donate to more prestigious universities as a means of enhancing their own prestige.

A basic problem faced by donors interested in educational benefits is the assessment of which institution would make best use of contributions. The perception of educational quality is nebulous at best, even among experienced higher-education researchers, and so the decisions of contributors are made in an environment of acute uncertainty as to the academic quality of institutions. Contributors will seek information as to the degree of benefits provided by a gift of a given amount. Academic prestige alone may be the best indicator of quality in the

eyes of donors or more objective measures of quality may be sought.

Despite problems of alternative goals and lack of information, the assumption that charitable contributions represent utility-maximizing behavior leads to the prediction that donors will contribute a greater amount to institutions of greater academic quality as a means of more effectively increasing educational benefits to society and thus maximizing their own well-being.

Since higher education provides benefits to society as a whole, state governments allocate tax revenues on society's behalf to the support of public colleges and universities. The educational benefits that would accrue from charitable contributions to public institutions are accounted for in part by mandatory taxes which support these institutions. Consequently, states that spend more public resources on higher education might be expected to receive less voluntary support for their public universities, since part of any donor's income is already allocated to these institutions via tax levies.

The rationality of donors by itself cannot adequately explain variations in voluntary support. Each donor must interact with the recipient institution, and the nature of this relationship determines an institution's success in eliciting charitable funding. Both donor and institution operate in an environment of uncertainty. Donors do not know the academic quality of the institution, while institutions must seek out and solicit potential donors. The purpose of institutional fund-raising activities is best understood in this context. Fund raising programs attempt to inform potential donors of the institution's academic quality and need for funds, while at the same time identifying

donors and assessing their potential for future contributions. Thus fund-raising is an effort at building and maintaining philanthropic relationships in an environment of uncertainty. The totality of these relationships between an institution and its donors is a valuable asset, and the success of an institution in accumulating this asset is a crucial predictor of voluntary support.

To summarize, it is claimed that the assumption of donor rationality together with explicit consideration of inter-organizational relationships offers a coherent framework for the analysis of voluntary support by the major donor-groups. In the present study, support by alumni and non-alumni individuals and business corporations will be specifically isolated, and support by all other sources will be combined in a fourth category.

Past literature has recognized that the motivations of alumni and alumni-institution relationships differ significantly from those of the other groups. Alumni carry on close social and emotional ties with their institutions. The contribution of an alumnus to his or her institution may bear little relation to educational benefits for society. The rationality of an alumnus will instead involve his/her reputation as reflected in the prestige of the alma mater, a desire to repay the institution for education, or a heightened recognition of the academic benefits provided by the institution. Problems of uncertainty on the part of the donor, or in establishing the donor-institution relationship, are least important for this donor-group.

Non-alumni individuals offer the closest comparison to the above description of donor rationality. Since the social and emotional

links with institutions are much less for these donors, their charitable decisions should be influenced by more objective features relative to institutional academic quality. Informational problems in this regard should be severe, as should the tax-displacement effort among public institutions. The nature and extent of philanthropic relationships with these donors should be a prime concern, since uncertainty on the part of donors and institutions in establishing links would be quite high.

Given their motive of profit-maximization, the incentive of businesses to enhance educational benefits should be the least among the donor-groups considered, although it may be substantial. Contributions to high-prestige institutions as a means of gaining favorable publicity may play a role. Another way in which charity may add to profitability is through joint research of commercial ventures between businesses and institutions of higher education. The opportunities for this type of voluntary support will be greatest in regions of rapid economic or institutional growth, where the emergence of new profit opportunities gives rise to corporate contributions. Business organizations, with their large size and specialization, should suffer fewer problems than individual donors in assessing academic quality.

The ability of businesses and educational institutions to establish strong inter-organizational ties in an uncertain environment may be the most significant issue pertaining to this donor-group. Following solicitation by a college or university, the contribution of an individual

requires a single decision made by that individual alone. Support by individuals thus entails the independent decisions of large numbers of donors, and the links between an institution and any individual are in general of limited importance. Business contributions, however, require the assent of a corporate hierarchy, and the educational institution can enter into this decision process at many different points. Moreover, the much smaller number of business donors makes it imperative that institutions establish and maintain strong organizational ties with businesses, both to elicit philanthropy and to exploit mutually profitable opportunities.

Lastly, the motives and relationships within the diverse residual category are more difficult to typify. However, since these donors are organizations rather than individuals, the need to establish strong inter-organizational links, as discussed above, may be a key factor. Difficulties in assessing academic quality may be less important than for individuals.

III. Method

To assess empirically the strengths of these factors in explaining voluntary support by each of the donor-groups, a linear model was estimated using data for major universities for the years 1977 and 1980. The institutions selected were classified as Research I universities by the Carnegie Commission and represented the nation's largest, highest profile institutions of higher education. Four submodels were estimated, using as dependent variables the voluntary contributions of alumni, non-alumni, business, and other donors, respectively, to each institution in the sample. Following the methodology of Feldstein [6], the 1977 and 1980 observations were combined to generate a pooled

sample of 73 observations.

The model consisted of eight independent variables plus a constant term. Full-time-equivalent enrollment was included to control for the size of the institution. Larger institutions presumably have a bigger base from which to draw voluntary support. Three variables were chosen to reflect varying degrees of academic quality and institutional prestige. Expenditures (educational, general, and student aid) per full-time-equivalent student were used to reflect an institution's physical, measurable commitment to educational quality, independent of reputational or prestige considerations. This measure thus represented a proxy for the direct educational benefits that a voluntary contribution of a given amount would provide to society and would be correlated with the decisions of donors who most carefully sought out information on academic quality. The problem of simultaneity in the relationship between expenditures and contributions was deemed unimportant since contributions made up only about 6 percent of total expenditures. Because it involved elements of academic quality and institutional prestige, the Gourman rating was employed as a proxy for the academic quality perceived by donors who were less diligent in seeking out information and instead relied in part on an institution's long-standing reputational position in inferring educational benefits. Prestige rankings embodied in this variable also reflected motives to contribute based on enhancement of donor prestige. Since the institutional factors reflected by the Gourman rating are determined over decades of institutional history, the current level of contributions would not simultaneously affect the Gourman rating. Though heavily criticized as highly subjective, the Gourman rating has been validated against other scales [18].

the Gourman rating has been validated against other scales [18]. Finally, as a proxy for institutional prestige not directly related to academic quality, the age of the institution was employed. Contributions to enhance donor prestige alone should best correlate with this variable. It is possible that this variable also reflects long-standing ties built up over time within the fund-raising environment, as discussed above, but these influences are controlled for by another independent variable.

To measure state support of public universities, state appropriations to the institution per full-time-equivalent student were used for public institutions. For private institutions, this variable was set to zero. Crowding out of a donor-group's contributions by public funding would be reflected through a negative correlation with this variable.

To reflect an institution's efforts to add to its stock of donor-institution relationships through fund-raising activities, the percent of alumni of record solicited in the annual fund drive was used. This served as a proxy for fund-raising characteristics of all sorts, including expenditures, skill and motivation of staff, involvement and leadership of institutional administration, and so on. An extensive and diligent fund-raising effort would entail a thorough and frequent canvass of the institution's alumni. An institution which did not solicit alumni heavily might be reflecting a shortage of personnel, lack of concern, or inefficient management with regard to the fund-raising function. As a proxy for the stock of donor-institution relationships built up over the past, the market value of endowment per

alumnus of record was employed. This variable indicated the history, as opposed to current efforts, of an institution in establishing and maintaining useful philanthropic contact. The success of endowment as a proxy is pointed out by Pickett:

> The value of endowment is the result of past gifts received by a college. The larger the endowment, the more successful the college has been in past fund raising (14, p. 4).

The value of endowment was divided by the number of alumni to control for the influence of size and age on the proxy variable.

Finally, to account for opportunities for voluntary support from symbiotic relationships between businesses and universities arising in regions of economic growth, the rate of growth of total non-agricultural employment over the ten-year period from September 1970 to September 1980 in the municipality closest to the institution was used.

To allow comparison of percentage changes in the independent variables, the natural logarithms of all variables were used for purposes of estimation (except percent of alumni solicited and regional economic growth, which were already percentages). Thus all coefficient estimates represented elasticities and easily could be compared. The logarithm of state appropriations per student was set equal to zero for private institutions. Following estimation of the four submodels corresponding to the donor-groups, a final set of estimates was obtained using total contributions to the institution as the dependent variable in order to assess aggregate influences. Finally, to test whether regional economic factors were relevant, each model was estimated using state per-capita income, state dividend and interest income, and the percentage of federal income tax returns itemized in a state.

Data on voluntary support for each of the donor-groups and in

the aggregate, as well as alumni of record, alumni solicitation, institution expenditures, and market value of endowment were derived from the Council for Financial Aid to Education for 1977 and 1980. Full-time-equivalent enrollment for the two years was taken from the Opening Fall Enrollment tapes constructed by the National Center for Education Statistics (NCES) and edited by the Center for the Study of Higher Education, University of Arizona. The Gourman Report provided the Gourman rating, and age in years was taken from the Education Directory published by NCES. Total nonmanufacturing metropolitan area employment for 1970 and 1980 was derived from the Bureau of Labor Statistics' State Tax Funds for Operating Expenses of Higher Education. For the states in which institutions were located, the Statistical Abstract of the United States provided income data, and the Internal Revenue Service's Statistics of Income provided data on the percentage of itemized federal tax returns in a state.

IV. Results

Regression estimates for each of the four submodels and the aggregate contributions model are shown in Table 2. For each set of estimates, a subset of the independent variables was excluded and the model was reestimated in this restricted form. The results from the restricted model are much clearer because they eliminate the influences of jointly insignificant variables. We justify the restrictions by a joint F-test of the hypothesis that the excluded variables have coefficients of zero. Restricted estimates are shown in Table 3, and the F-test results are shown at the bottom of the table for each model. In no case did the exclusions significantly affect the regression fit at the 5 percent

level, and so the excluded variables are jointly insignificant for each model. The precision of the estimates shown in Table 3 consequently is increased greatly.

Insert Table 2 about here

The restricted estimates for the two individual donor submodels are given in the first two columns of Table 3. The restricted model explains 51.3 percent of the variation in alumni contributions and 56 percent for non-alumni individuals. The elasticity of institution size is between .66 and .67 for both groups. This indicates a measure of diminishing returns of institutional size in its effect on individual contributions, in that a percentage increase in enrollment leads to increases in individual contributions of only .66 to .67 percent. Alumni giving is not significantly affected by expenditures per student, which is the proxy variable for direct academic quality, but the effect of the Gourman rating is very large, with an elasticity of over three, and age also has a significant positive effect. Thus, while academic quality may have some influence on alumni support as shown in the very strong Gourman elasticity, the main predictor of alumni contributions appears to be institutional prestige (as represented both by the Gourman and age values). The motive of enhancement of donor prestige is indicated (the age variable), and the close social ties of alumni with their schools makes this particularly plausible. Another factor influencing alumni support may be the greater economic success that alumni of higher-prestige universities may experience. This may help to explain

the very high elasticity of the Gourman rating, but the strong added effect of age suggests that institutional prestige operates in a more direct manner.

Insert Table 3 about here

The effect of expenditures per student on non-alumni contributions is very strong with elasticity over one in the restricted estimates. Moreover, the indicators of institutional prestige are not significant predictors. The suggestion is that non-alumni donors are motivated by considerations of social educational benefits, and efforts to enhance donor prestige are not important. Further, these donors seek out high quality, whereas they pay little attention to more vague and subjective reputational rankings. These donors appear to seek out high-quality information as to academic excellence when charitable decisions are made. Informational problems, which would be manifested in dependence on less accurate information such as institutional prestige, do not seem to be predominant.

Current efforts on the part of institutions to enhance donor-institution relationships, as proxied by percent of alumni solicited, do not significantly affect individual contributions. In fact, the effect of solicitation on non-alumni giving is negative and statistically significant, although small in magnitude. This may indicate low utility of the proxy. For example, when non-alumni contributions are lower, institutions may respond by soliciting alumni more heavily. However, the indication is that current efforts to add to the stock of useful

philanthropic relationships have little immediate effect on individuals. The overall stock of such relationships as reflected by endowment per alumnus does not significantly affect alumni contributions. This is as expected, since alumni carry on much closer relationships with institutions than do non-alumni. While the effect of endowment on non-alumni contributions was positive in the unrestricted estimates, the variable was jointly insignificant in the restricted estimates, indicating that including the variable is not statistically justified. Bilateral relationships between non-alumni donors and institutions thus have a positive effect, but the effect is not strong.

State appropriations per student exert a statistically significant negative influence on both groups of individuals, with elasticity of -.34 for alumni and -.43 for non-alumni. Thus an increase of 1 percent in state funding appears to lower individual contributions to public institutions by about .40 percent, with stronger effects for non-alumni. Regional growth does not significantly affect individual contributions in the restricted estimates, although a small positive effect on alumni gifts is statistically significant in the unrestricted estimates.

Restricted estimates for the two groups of organizational contributors appear in columns three and four of Table 3. The restricted model explains 43.4 percent of variations in business support and 41.7 percent for non-business organizations. Size has a significant effect on both groups, with elasticities of about one in both restricted estimates. The organizational contributions appear to grow in proportion to institutional size. Academic quality as reflected by expenditures

per student has a significant positive effect on both categories, with elasticities of .83 for businesses and .91 for other organizations. Moreover, neither of the reputation-oriented variables are significant for either group of donors. The indication is that organizational contributions are motivated chiefly by a desire to provide educational benefits, and efforts by donors to gain prestige for themselves are less important. Moreover, organizational donors base contributions on high-quality information, suggesting that information problems in assessing academic quality are not paramount. The state appropriations variable does not affect either organizational group in a significant way.

With regard to donor-institution relationships, current efforts to enhance these relationships, as reflected by alumni solicitation, do not impact significantly on organizational contributions. However, the stock of philanthropic relations as measured by endowment per alumnus has a significant positive effect on both categories, with elasticities of .26 and .35. The indication is that inter-organizational links built over time between organizational donors and academic institutions are important factors in explaining contributions, particularly by non-business organizations. The regional growth variable, which reflected symbiotic commercial relations between businesses and institutions, has a positive and statistically significant effect on business contributions. However, the magnitude of the effect is small, with elasticity of .01.

Estimates of the aggregate voluntary support model are shown in the last column of Table 3. The model explains 69.3 percent of

the variation of total contributions. The effect of size is significantly positive. Expenditures per student have a significant positive effect with elasticity of about one, while the Gourman rating and age are insignificant. The reputational considerations do not appear to be important in the aggregate. The state appropriations variable is insignificant, while solicitation and regional growth have significant but small negative and positive effects, respectively. Endowment per alumnus has a significant positive influence, with elasticity of almost .30. The long-term donor-institution relationships appear to have a large role in explaining aggregate support.

Further estimates were obtained by individually adding state per-capita income, state dividend and interest income, and state percentage of federal tax returns itemized to each of the five models in order to ascertain whether the important predictors of time-series studies exerted regional cross-sectional influences. In no cases were the variables statistically significant predictors.

V. Conclusion

Several implications of pragmatic interest to institutional fund-raisers are suggested from these results. Of course, these suggestions are logical speculations from the model, rather than causal conclusions. Some apply to higher education fund-raising generically; however, the differentiation of fund-raising strategies by group solicited often is crucial. Although some institutional traits and procedures appear to affect all donor groups in the same direction, others seem to affect different groups in opposite fashion. Even those traits that operate in a consistent direction vary in importance among the

donor groups, as evidenced by variations in the size of coefficients. These differences in magnitudes suggest the proper emphases in fund-raising approaches.

This is not to say that all or even most institutional traits affecting donor behavior are manipulable in the short or intermediate run; indeed, most are not. What is suggested by these data primarily is of utility in a marketing sense, in choosing the institutional traits to emphasize in order to increase the probability and amount of donor support.

Generally, institutional size is an important trait to all donor groups but it is unlikely that it is size, per se, that appeals to benefactors; more likely it is the overall scale of the institutional impact on the region that impacts donor behavior--in short, it is the institution's "public profile" and the correlation of that profile with quality. Probably it is the public visibility, the prominence of the institution--certainly a correlate of enrollment size--that is vital. It is worth noting also from the elasticities that increases in size are of diminishing utility in fund-raising among individuals but are of constant utility among organizations.

With the exception of alumni, institutional quality, as reflected in expenditures per student, impacts favorably on the various donor groups. The form of this proxy, however, suggests a rather specific fund-raising strategy. The large positive coefficients imply that most donor groups are aware of a connection between "price" and quality and that fund-raisers may find success in emphasizing the large magnitude of the existing public and private investment in the institution.

In other words, donors may react positively to an argument for concentrating resources in a single preeminent state or regional university. (This is a speculation that is consistent with the model but may be inaccurate.) This will be counter-intuitive to those who have utilized a "poverty approach" to fund-raising. Apparently, the superior strategy is to promote the high research university in what might be labeled the Harvard or the University of Texas approach, pointing up the vastness of the University resources and its financial preeminence. To alumni, however, as found earlier [11] and supported herein, demonstration of critical financial need will be productive.

Alumni may respond well also to emphasis upon the long-standing traditions of the institution and to its prestige (age and quality rating). Alumni and non-alumni individuals presumably will respond favorably to shortfalls in state support. The institutional need rationale is again in evidence.

Current institutional efforts at fund-raising appear to be primarily reactive in nature. Much more important are the long-standing ties developed between institutions and organizational contributors, and it is this reality that should be kept in the forefront of fund-raising efforts.

Business organizations, specifically, have greater opportunities for financial associations with institutions located in areas of economic growth and they seem to take advantage of those opportunities. That is, in areas of growth new companies begin operation and operations of old companies expand. This, too, is consistent with results from nationally aggregated time series results [11]. The selling of university-

business collaboration in a growing economy is a promising fund-raising technique although the small elasticity may suggest that this factor has not been explored fully.

The various groups who contribute to American research universities act in a manner largely predictable from theory. Economic organizations tend to react primarily in rational economic fashion, whereas the motives of private individuals not surprisingly have a clearly human dimension as well. In short the utilities of individuals are, as always, quite complex.

REFERENCES

1. Bureau of Labor Statistics, U. S. Department of Labor. Employment and Earnings, December 1970 and December 1980. Washington, DC: U. S. Government Printing Office, 1970, 1980.

2. Bureau of the Census, U. S. Department of Commerce. Statistical Abstract of the United States. Washington, DC: U. S. Government Printing Office, 1978, 1979, 1981, 1982-83.

3. Chambers, M.M. State Tax Funds for Operating Expenses of Higher Education. Washington, DC: National Association of State Universities and Land-Grant Colleges (1977, 1980)

4. Council for Financial Aid to Education. Voluntary Support of Education, 1977-78 and 1980-81. New York: Council for Financial Aid to Education 1979, 1982.

5. Cushman, F.J. "Charitable Giving and Philanthropic Foundations: An Economic Analysis." Ph.D. dissertation, University of Virginia, 1979.

6. Feldstein, M. "The Income Tax and Charitable Contributions: Part I Aggregate and Distributional Effects." National Tax Journal, 28 (March 1975a), 81-99.

7. _____ "The Income Tax and Charitable Contributions: Part II. The Impact on Religious, Educational, and Other Organizations." National Tax Journal, 28 (June 1975b) 209-226.

8. Gourman, J. The Gourman Report. Phoenix: The Continuing Education Institute, Inc. 1967.

9. Internal Revenue Service, U. S. Department of the Treasury. 1977 and 1980 Statistics of Income: Individual Income Tax Returns. Washington, DC: U. S. Government Printing Office, 1980, 1982.

10. Leslie, J.W. "Variations in Fund-Raising Potential Among Colleges And Universities." In Analyzing the Cost-Effectiveness of Fund-Raising, edited by W. Heemann, pp. 59-70. San Francisco: Jossey-Bass, 1979.

11. Leslie, L.L., et al. "Factors Accounting for Variations Over Time in Voluntary Support for Colleges and Universities". The Journal of Education Finance, 9 (Fall 1983) 213-225.

12. Matheson, M. (ed.). The College Handbook 1981-82. New York: College Entrance Examination Board, 1981.

13. National Center for Education Statistics. Opening Fall Enrollment. Tucson, AZ: Center for the Study of Higher Education, University of Arizona (computer tapes), 1983.

14. Pickett, W.L. Increasing Fund-Raising Effectiveness. San Diego: Office of the Vice-President for University Relations, University of San Diego (mimeo), 1981.

15. Podolsky, A., and C. B. Smith. Education Directory, Colleges and Universities 1977-78. Washington, DC: U. S. Government Printing Office, 1978.

16. Schwartz, R.A. "Corporate Philanthropic Contributions." Journal of Finance, 23 (June 1968) 479-499.

17. Smith, H.W. "Voluntary Support: The End Product of Fund-Raising Activities." In Analyzing the Cost-Effectiveness of Fund-Raising, edited by W. Heemann, pp. 1-21. San Francisco: Jossey-Bass, 1979.

18. Solomon, L.C. "The Definition of College Quality and Its Impact on Earnings." Explorations In Economic Research, 2 (Fall 1975), 443-460.

19. Taussig, M.K. "Economic Aspects of the Personal Income Tax Treatment of Charitable Contributions." National Tax Journal, 20 (March 1967), 1-19.

TABLE 1

DONOR-GROUP PERCENTAGES OF TOTAL SUPPORT FOR HIGHER EDUCATION

	1975-76	1980-81
Alumni	24.4	24.8
Non-Alumni Individuals	23.6	23.8
Foundations	22.8	21.8
Business Corporations	15.7	18.4
Religious Denominations	5.4	3.3
Other	8.1	7.9

Source: Council for Financial Aid to Education, 1982, p. 4.

TABLE 2

UNRESTRICTED ELASTICITY ESTIMATES OF VARIABLES EXPLAINING DONOR BEHAVIOR

(T-Statistics in Parentheses)

	Alumni Individuals	Non-Alumni Individuals	Business Organizations	Non-Business Organizations	Total Gifts
Size	1.066*	.766*	.812*	1.138*	.799*
	(3.73)	(3.36)	(3.86)	(4.04)	(5.73)
Expenditure Per Student	.662	.982*	.595	1.142*	.952*
	(1.55)	(2.88)	(1.89)	(2.72)	(4.57)
Gourman Rating	1.570	-.644	.923	-.072	.409
	(1.38)	(-.71)	(1.10)	(-.06)	(.74)
Age	1.302*	-.199	-.080	.172	.161
	(3.25)	(-.62)	(-.27)	(.44)	(.82)
State Appropriations Per Student	-.356*	-.324*	.063	-.204	-.132
	(-2.29)	(-2.61)	(.55)	(-1.32)	(-1.74)
Percent Solicited	-.007	-.019*	-.007	-.002	-.011*
	(-.80)	(2.64)	(-1.03)	(-.24)	(-2.44)
Endowment Per Alumnus	.194	.256*	.225*	.293*	.194*
	(1.31)	(2.17)	(2.06)	(2.01)	(2.69)
Regional Growth	.011*	.003	.011*	.008	.006*
	(2.31)	(.90)	(3.06)	(1.63)	(2.76)
Constant	-14.623*	1.986	-5.107	-5.240	-3.343
	(-3.64)	(.62)	(-1.73)	(-1.32)	(-1.70)
R2	.564	.600	.464	.448	.714
Standard Error	.858	.684	.632	.845	.419

*Coefficient significantly different from zero at the 5% level.

TABLE 3

RESTRICTED ELASTICITY ESTIMATES OF
VARIABLES EXPLAINING DONOR BEHAVIOR

(T-Statistics in Parentheses)

	Alumni Individuals	Non-Alumni Individuals	Business Organizations	Non-Business Organizations	Total Gifts
Size	.660	.674	1.022	.953	.757
	(3.10)	(3.34)	(6.29)	(4.46)	(6.75)
Expenditure Per Student	-	1.175	.833	.914	.914
	-	(4.85)	(3.11)	(2.64)	(4.96)
Gourman Rating	3.554	-	-	-	-
	(4.98)	-	-	-	-
Age	.837	-	-	-	-
	(2.29)	-	-	-	-
State Appropriations Per Student	-.342	-.427	-	-	-
	(-2.55)	(-4.13)	-	-	-
Percent Solicited	-	-.016	-	-	-.012
	-	(-2.31)	-	-	(-2.76)
Endowment Per Alumnus	-	-	.261	.345	.289
	-	-	(3.46)	(3.52)	(5.66)
Regional Growth	-	-	.012	-	.005
	-	-	(3.79)	-	(2.47)
Constant	-15.978	-1.697	-4.044	-3.563	-.949
	(-5.71)	(-.94)	(-2.59)	(-1.81)	(-.79)
R2	.513	.560	.434	.417	.693
Standard Error	.880	.695	.630	.837	.424
f-Test Restriction	2.17	1.79	1.04	.84	1.81
5% Critical Value	2.53	2.53	2.53	2.37	2.76